

What is claimed is:

1. A gamma correcting circuit comprising:

a basic voltage generating circuit which has one end connected to a first high-potential power supply and the other end connected to a first low-potential power supply and generates and outputs a plurality of basic voltages by dividing a voltage difference between a voltage of said first low-potential power supply and a voltage of said first low-potential power supply;

a gamma correction resistor circuit having a plurality of resistor elements connected in series between a second high-potential power supply and a second low-potential power supply, and gray-scale voltage output terminals and  $n$  ( $n$  being a positive integer) reference-voltage output terminal groups, both provided at respective nodes between said resistor elements, each of said  $n$  reference-voltage output terminal groups including a maximum of  $u$  ( $u$  being a positive integer) reference-voltage output terminal candidates; and

a gamma correction adjusting circuit having  $n$  gamma characteristic adjusting units in association with said  $n$  reference-voltage output terminal groups, each of which selects one of a maximum  $v$  ( $v$  being a positive integer) basic voltages supplied from said basic voltage generating circuit as a reference voltage based on correction adjustment data and selects an output terminal for said selected reference voltage from said maximum of  $u$  reference-voltage output terminal candidates included in the

associated one of said n reference-voltage output terminal groups based on said correction adjustment data.

2. The gamma correcting circuit according to claim 1, wherein said basic voltage generating circuit has a  
5 plurality of resistor elements connected in series between said first high-potential power supply and said first low-potential power supply and outputs individual basic voltages from nodes between those resistor elements.

3. The gamma correcting circuit according to claim 1,  
10 wherein each of said gamma characteristic adjusting units includes:

a data latch which fetches and latches said correction adjustment data at a predetermined timing;

a reference voltage selector which receives a  
15 plurality of basic voltages and selects and outputs one of said basic voltages as a reference voltage based on said correction adjustment data latched by said data latch;

a node selector which has a first terminal, a second terminal, a switch circuit and a plurality of voltage output  
20 terminals that constituting the associated reference-voltage output terminal group and selects, from said voltage output terminals of said associated reference-voltage output terminal group, that reference-voltage output terminal which is connected to said first terminal and said second terminal  
25 by said switch circuit, based on said correction adjustment data latched by said data latch; and

an operational amplifier having a positive output

terminal to which an output of said reference voltage selector is input, a negative output terminal connected to said first terminal and an output terminal connected to said second terminal.

5           4. The gamma correcting circuit according to claim 3, wherein said reference voltage selector selects a reference voltage based on a first predetermined portion of said correction adjustment data latched by said data latch and said node selector selects a reference-voltage output  
10 terminal based on a second predetermined portion of said correction adjustment data.

          5. The gamma correcting circuit according to claim 3, wherein said switch circuit of said node selector includes a plurality of switches having one ends connected together to  
15 said first terminal and said second terminal and other ends connected to respective voltage output terminals of the associated reference-voltage output terminal group and enables that one of said switches which is selected based on said correction adjustment data.

20           6. The gamma correcting circuit according to claim 3, wherein said node selector has:

          a first switch circuit including a plurality of switches having one ends connected together to said first terminal and other ends connected to respective voltage  
25 output terminals of the associated reference-voltage output terminal group; and

          a second switch circuit including a plurality of

switches provided in association with said switches of said first switch circuit, equal in number to said switches of said first switch circuit and having one ends connected together to said second terminal and other ends respectively  
5 connected to said other ends of said switches of said first switch circuit, and

enables that one of said switches of said first switch circuit which is selected based on said correction adjustment data and that one of said switches of said second  
10 switch circuit which is associated with said selected switch.

7. A display panel drive apparatus having a gamma correcting circuit as recited in claim 1.

8. A display panel drive apparatus having a gamma correcting circuit as recited in claim 2.

15 9. A display panel drive apparatus having a gamma correcting circuit as recited in claim 3.

10. A display panel drive apparatus having a gamma correcting circuit as recited in claim 4.

20 11. A display panel drive apparatus having a gamma correcting circuit as recited in claim 5.

12. A display panel drive apparatus having a gamma correcting circuit as recited in claim 6.